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Forest
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Subject: Pest Management Recommendations for Rendija Canyon Thinning Project

To: Forest Supervisor, Santa Fe National Forest, Attn: Bill Armstrong

As requested, here are my thoughts/recommendations concerning your silvicultural prescription alternatives for Rendija Canyon:

Background. The project site is on Santa Fe NF (SFNF) land on the north edge of Los Alamos. The proposed treatment area is about 50 acres in size and includes ponderosa pine and pine/mixed forest on the south side of Rendija Canyon. This stand is directly adjacent to several recently thinned areas: on Los Alamos County land (Guaye Pines area) to the west, thinned (masticated) in 2003; the bottom of Rendija Canyon (SFNF), thinned and burned in 1997; and the area to east along "Gun Club" road (SFNF), thinned in 1999. In addition, the upper portion of Rendija Canyon behind Arizona Avenue (SFNF) is scheduled for thinning (mastication) later this year. In total, these efforts should create a sizable "fuel-break" and improve overall forest conditions in this WUI.

The current project site is just below a large subdivision, and several heavily-used recreation trails pass through it. The stand is predominantly ponderosa pine, with significant amounts of Douglas-fir and occasional limber pine in the upper (west) side. Three treatment alternatives are being analyzed, as follows: 1) intermediate cut to 30-40 BA, 2) intermediate cut to 70 BA (minimum BA according to current Forest Plan), and 3) single tree selection to 80-100 BA. Because of poor motor access, all the material generated by this project would remain on site, either in piles, scattered, or masticated.

Bark beetles: Lower basal area stands are generally less susceptible to bark beetle attack. Depending on site quality, bark beetle "risk" may become significant around 120 BA, increasing steadily above 120. In at least one of your alternatives, the 120 BA threshold would probably be exceeded before the next scheduled entry.

Ips bark beetles often breed in fresh pine thinning slash and sometimes emerge and attack standing trees. For various reasons, this problem can be minimized by thinning between mid-July and mid-December. (Note that spring thinning does not always result in *Ips* problems, but is much more likely to do so than late summer or fall thinning.) To further reduce the potential for a build-up of *Ips*, scattering slash in sunny areas (to hasten drying) may be preferable to piling.

Ips cannot breed in chips or masticated "chunks;" however, the scent of the fresh chips/chunks can attract beetles, which may attack nearby standing trees. Thus, the safest time to chip or masticate would be the winter months (late November through March), when beetles are inactive. The most risky time to chip or masticate is probably late April through June. It is usually dry at this time, with trees under stress and more vulnerable to attack. Late summer or



fall may be better for masticating than late spring or early summer, although there is little or no data at present to support this.

Dwarf Mistletoes: Both ponderosa pine mistletoe and Douglas-fir mistletoe occur in this stand, but at relatively low levels overall. The majority of the area is free of these parasites, and, given their slow rate of lateral spread (1-2 feet/year), they are not a serious management problem here. A fairly large (perhaps 2- to 3-acre) pine infection center does occur in the western portion of the stand, however. Although the majority of the pines are infected in this area, it appeared that there are sufficient numbers of “crop tree” quality trees to work with. Careful selection of “clean” and lightly infected dominant and codominant trees for retention will be needed here.

Another strategy that can be used to some extent during marking and selection would be to favor “alternate hosts” within infected areas. In the situation here, healthy Douglas-fir (where present) could be retained within pine infection centers and healthy pine favored over infested Douglas-fir. All white (limber) pines should be retained. Overall, I think there may be little actual difference among your alternatives in terms of dwarf mistletoe management.

Root Disease. Heavy thinnings can contribute to build-ups of root disease on some sites, leading to eventual mortality among standing trees. This could potentially be a problem on the pumice-derived soils around Los Alamos. However, it is generally agreed that only the creation of larger (>16”) stumps has the potential to significantly increase root disease incidence. Since it appears that none of your alternatives would remove many of the larger trees (“thinning from above”), root disease should not be much affected by the project.

Stem Rust. During our “walkthrough” of the west side of the stand on July 16, I observed a single pole-size ponderosa pine with western gall rust. Since this is a very rare disease in New Mexico, I would recommend that you retain this tree (I’ll relocate and mark it) for possible future genetic studies. This disease almost certainly will not become a management problem here.

Please feel free to contact us if you need further assistance.

/s/ David A. Conklin
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cc: Debra Allen-Reid, David W Isackson